10-20-00

*A*

# UTILITY PATENT APPLICATION TRANSMITTAL

*(Only for new nonprovisional applications under 37 CFR 1.53(b))*

| | |
|---|---|
| *Attorney Docket No.* | 004688.P004 |
| *First Inventor or Application Identifier* | Yakov Kamen |
| *Title* | METHOD AND SYSTEM FOR ADAPTIVE ELECTRONIC PROGRAMMING |
| *Express Mail Label No.* | EL635878002US |

## APPLICATION ELEMENTS
*See MPEP chapter 600 concerning utility patent application contents*

**ADDRESS TO:** Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

1. ☒ Fee Transmittal Form *(e.g. PTO/SB/17)*
*(Submit an original, and a duplicate for fee processing)*

2. ☒ Applicant claims small entity status.
See 37 CFR 1.27.

3. ☒ Specification     *Total Pages* [17]
*(preferred arrangement set forth below)*
 - Descriptive title of the Invention
 - Cross References to Related Applications
 - Statement Regarding Fed sponsored R & D
 - Reference to sequence listing, a table,
   or a computer program listing appendix
 - Background of the Invention
 - Brief Summary of the Invention
 - Brief Description of the Drawings (if filed )
 - Detailed Description
 - Claim(s)
 - Abstract of the Disclosure

4. ☒ Drawing(s) *(35 U.S.C.113)*     *Total Sheets* [1]

5. Oath or Declaration     *Total Pages* [ ]

 a. ☐ Newly executed (original copy)

 b. ☐ Copy from a prior application (37 CFR 1.63(d))
 *(for continuation/divisional with Box 16 completed)*

 i. ☐ <u>DELETION OF INVENTOR(S)</u>
 Signed statement attached deleting
 inventor(s) named in the prior application,
 see 37 CFR 1.63(d)(2) and 1.33(b).

6. ☐ Application Data Sheet. See 37 CFR 1.76.

7. ☐ CD-ROM or CD-R in duplicate, large table or Computer Program *(Appendix)*

8. Nucleotide and/or Amino Acid Sequence Submission
*(if applicable, all necessary)*
 a. ☐ Computer Readable Form (CFR)

 b. ☐ Specification Sequence Listing on:
  i. ☐ CD-ROM or CD-R (2 copies); or
  ii. ☐ Paper
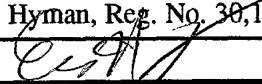 c. ☐ Statement verifying identity of above copies

## ACCOMPANYING APPLICATION PARTS

9. ☐ Assignment Papers (cover sheet & document(s))

10. ☐ 37 CFR 3.73(b) Statement     ☐ Power of Attorney
*(when there is an assignee)*

11. ☐ English Translation Document *(if applicable)*

12. ☐ Information Disclosure Statement (IDS)/PTO - 1449     ☐ Copies of IDS Citations

13. ☐ Preliminary Amendment

14. ☒ Return Receipt Postcard (MPEP 503)
*(Should be specifically itemized)*

15. ☐ Certified Copy of Priority Document(s)
*(if foreign priority is claimed)*

16. ☐ Other: . . . . . . . . . . . . . . . . . . . . . . . . . .
. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

**17. If a CONTINUING APPLICATION**, *check appropriate box, and supply the requisite information below and in a preliminary amendment:*

☐ Continuation   ☐ Divisional   ☐ Continuation-in-part (CIP)   of prior application No:_____/_____

*Prior application Information:   Examiner_____   Group/Art Unit:_____*

For <u>CONTINUATION or DIVISIONAL APPS only</u>: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation <u>can only</u> be relied upon when a portion has been inadvertently omitted from the submitted application parts.

## 17.   CORRESPONDENCE ADDRESS

☐ *Customer Number of Bar Code Label*   [*(Insert Customer No. or Attach bare code label here)*]   *or* ☒ *Correspondence address below*

| | |
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|---|---|---|---|
| *Signature* | | *Date* | 10/18/00 |

# FEE TRANSMITTAL
## for FY 2001

*Patent fees are subject to annual revision.*

| **TOTAL AMOUNT OF PAYMENT** | ($) | 345.00 |

**Complete if Known**

| Application Number | |
|---|---|
| Filing Date | 10/18/00 |
| First Named Inventor | Yakov Kamen, et al. |
| Examiner Name | |
| Group Art Unit | |
| Attorney Docket Number | 004688.P004 |

## METHOD OF PAYMENT (check one)

1. ☒ The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:

Deposit Account Number: **02-2666**

Deposit Account Name: **Blakely, Sokoloff, Taylor & Zafman LLP**

☒ Charge Any Additional Fee Required Under 37CFR 1.16 and 1.17

☒ Applicant claims small entity status. See 37 CFR 1.27

2. ☒ Payment Enclosed:
☒ Check ☐ Money Order ☐ Other

## FEE CALCULATION

### 1. FILING FEE

| Large Entity Fee Code | Fee ($) | Small Entity Fee Code | Fee ($) | Fee Description | Fee Paid |
|---|---|---|---|---|---|
| 101 | 690 | 201 | 345 | Utility filing fee | $345 |
| 106 | 310 | 206 | 155 | Design filing fee | |
| 107 | 480 | 207 | 240 | Plant filing fee | |
| 108 | 690 | 208 | 345 | Reissue filing fee | |
| 114 | 150 | 214 | 75 | Provisional filing fee | |

| | **SUBTOTAL (1)** | ($) | 345.00 |

### 2. EXTRA CLAIM FEES

| | Extra Claims | Fee from below | Fee Paid |
|---|---|---|---|
| Total Claims | 10 | -20** = 0 | X $9.00 = 0.00 |
| Independent Claims | 2 | -3** = 0 | X $40.00 = 0.00 |
| Multiple Dependent | | = | |

| Large Entity Fee Code | Fee ($) | Small Entity Fee Code | Fee ($) | Fee Description |
|---|---|---|---|---|
| 103 | 18 | 203 | 9 | Claims in excess of 20 |
| 102 | 78 | 202 | 39 | Independent claims in excess of 3 |
| 104 | 270 | 204 | 135 | Multiple Dependent claim |
| 109 | 78 | 209 | 39 | **Reissue independent claims over original patent |
| 110 | 18 | 210 | 9 | **Reissue claims in excess of 20 and over original patent |

| | **SUBTOTAL (2)** | ($) | 0.00 |

*or number of previously paid, if greater; For Reissues, see above*

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEE

| Large Entity Fee Code | Fee ($) | Small Entity Fee Code | Fee ($) | Fee Description | Fee Paid |
|---|---|---|---|---|---|
| 105 | 130 | 205 | 65 | Surcharge - late filing fee or oath | |
| 127 | 50 | 227 | 25 | Surcharge - late provisional filing fee or cover sheet. | |
| 139 | 130 | 139 | 130 | Non-English specification | |
| 147 | 2,520 | 147 | 2,520 | For filing a request for ex parte reexamination | |
| 112 | 920* | 112 | 920* | Requesting publication of SIR prior to Examiner action | |
| 113 | 1,840* | 113 | 1,840* | Requesting publication of SIR after Examiner action | |
| 115 | 110 | 215 | 55 | Extension for response within first month | |
| 116 | 380 | 216 | 190 | Extension for response within second month | |
| 117 | 870 | 217 | 435 | Extension for response within third month | |
| 118 | 1,360 | 218 | 680 | Extension for response within fourth month | |
| 128 | 1,850 | 228 | 925 | Extension for response within fifth month | |
| 119 | 300 | 219 | 150 | Notice of Appeal | |
| 120 | 300 | 220 | 150 | Filing a brief in support of an appeal | |
| 121 | 260 | 221 | 130 | Request for oral hearing | |
| 138 | 1,360 | 138 | 1,360 | Petition to institute a public use proceeding | |
| 140 | 110 | 240 | 55 | Petition to revive - unavoidably | |
| 141 | 1,210 | 241 | 605 | Petition to revive - unintentionally | |
| 142 | 1,210 | 242 | 605 | Utility issue fee (or reissue) | |
| 143 | 430 | 243 | 215 | Design issue fee | |
| 144 | 580 | 244 | 290 | Plant issue fee | |
| 122 | 130 | 122 | 130 | Petitions to the Commissioner | |
| 123 | 50 | 123 | 50 | Petitions related to provisional applications | |
| 126 | 240 | 126 | 240 | Submission of Information Disclosure Stmt | |
| 581 | 40 | 581 | 40 | Recording each patent assignment per property (times number of properties) | |
| 146 | 760 | 246 | 380 | Filing a submission after final rejection (37 CFR 1.129(a)) | |
| 149 | 760 | 249 | 380 | For each additional invention to be examined (37 CFR 1.129(b)) | |
| 179 | 710 | 279 | 355 | Request for Continued Examination (RCE) | |
| 169 | 900 | 169 | 900 | Request for expedited examination of a design application | |

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

| | **SUBTOTAL (3)** | ($) | |

## SUBMITTED BY

| Typed or Printed Name | Eric S. Hyman, Reg. No. 30,139 | Reg. Number | |
|---|---|---|---|
| Signature | *[signature]* | Date 10/18/00 | Deposit Account User ID 02-2666 |

**Complete (if applicable)**

UNITED STATES PATENT APPLICATION

FOR

## METHOD AND SYSTEM FOR ADAPTIVE ELECTRONIC PROGRAMMING GUIDE

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**Leon Alexander Shirman**

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This application claims the benefit of United States Provisional Application No. 60/190,349, filed on March 16, 2000,

5 entitled METHOD AND SYSTEM FOR ADAPTIVE ELECTRONIC PROGRAMMING GUIDE.

## 1. Field of the Invention

The invention relates to a television electronic program

10 schedule system, which provides a user with schedule information for broadcast or cablecast programs or schedule information for cable, satellite, and over-the-air subscription television systems. More particularly, the invention relates to a system and process that allows an electronic programming guide designer to

15 add a capability to change program listing appearance adaptively, based on a signal from a user or broadcaster.

## 2. Description of the Related Art

Prior art electronic programming guides ("EPGs") provide television viewers with on-screen television schedule information

20 presented, e.g., in a convenient, regular or non-regular rectangular grid format. One type of EPG is used in conjunction with an analog television system. That type of EPG sometimes is called a passive programming guide ("PPG"). In such a system, one of the cable channels is reserved for displaying programming

25 information. The programming information is displayed in a grid pattern. The first column lists the various channels of the cable broadcast system. Additional columns, e.g., columns two, three and four, display program information for what is showing on the

channels listed in the first column, in half-hour increments. For

example, suppose that a person tunes to an EPG at 10:35 p.m., the

second column would display program information for 10:00 - 10:30

p.m., the third column would display program information for 10:30

5    - 11:00 p.m., and the fourth column would display program

information for 11:00 p.m. - 11:30 p.m. A row at mid-screen

displays the time slots relating to the second, third and fourth

columns. A portion of the television ("TV") screen typically

provides continuous advertisements.

10        Cable TV systems typically provide more television channels

than there is space for rows in a useable grid pattern. A grid is

typically used that scrolls at a pre-selected slow rate, so that a

viewer can see what is showing on all of the channels. In the

case of satellite broadcasts, the situation becomes even more

15   complex. Digital satellite TV systems may provide 1,000 TV

channels with various TV programs and services.

        The program schedule information contained in an analog EPG

is typically broadcast by an operator on a dedicated one of the

channels of the cable TV system. However, most digital EPGs

20   operate in a different way. In a digital EPG, program schedule

information and sometimes applications and/or systems software is

transmitted to equipment located on the viewer's premises (e.g., a

digital set-top box) by way of broadcast, cable, direct satellite

or other suitable form of transmission. A digital set-top box

25   ("STB") serves to deliver compressed digital video, data and audio

signals in real time usable form to one or more TV sets. The STB,

which is basically a dedicated computing device, contains memory

allowing the program schedule information to be stored for later

viewing.  The program schedule information stored in the STB is

periodically updated, e.g., on a continuous, daily, weekly, or

biweekly basis or any other useful pattern.  A microprocessor

5   within the STB utilizes the viewer's TV set to display the stored

program schedule information and to implement other functions of

the EPG in response to user-generated signals.  The functions

available to the viewer vary depending on the sophistication of

the particular EPG and hardware capabilities.

10      Digital EPGs are often used in an interactive television

system and are sometimes called interactive programming guides

("IPGs").  In an interactive television system EPG, a user may

browse schedule information in any order, select programs from on-

screen menus for current or future viewing, and order pay-per-view

15  programming on demand.  Some advanced EPGs permit other functions,

e.g., an e-mail function, or a function that permits a user to

block certain kinds of programs, such as adult or violent

programs, and choose favorite channels.  Prior art digital EPGs,

however, collectively fail to provide viewing capabilities that

20  realistically address the viewing habits of the users of these

systems.

As mentioned above, an analog TV EPG is viewed on a TV screen

as a continuously scrolling rectangular table.  This solution does

not allow any user interaction and is suitable only for the passive

25  television viewer.  This is a poor solution for interactive TV,

because:

1.  The scrolling speed is set upfront (it is not necessarily

    constant) and cannot be adjusted by user's request.

2.  In an analog EPG system, the user cannot switch to the

    channel of choice immediately from the EPG (e.g., by clicking

    on a display of a channel number  on the EPG).  Instead, the

    user must input the channel number with a remote controller.

3.  The analog EPG scrolling table is completely sequential

    (providing information in an order depending upon channel

    number and designer's chosen style) and the user cannot pre-

    sort schedule data or otherwise personalize the EPG or IPG.

    A more sophisticated solution is the interactive EPG ("IPG").

Unfortunately, existing solution have their own problems.  For

example, interactive EPG systems provide drop-down menus that

require multiple steps in order to interact with the EPG, which

can lead to user frustration when a search for a desired program

is unsuccessful or simply too complicated.  As known today,

interactive EPGs are inflexible in terms of menu design, because

the menu itself is a set of regular two-dimensional grids.

    Additional problems with the prior art electronic programming

guides are listed below.

1.  <u>Program Description Truncation</u>.  When displaying schedule

    information in grid format, i.e., columns representing time

    slots and rows representing channels, program titles are

    generally truncated to fit into the cells of the grid.  The

    width of a grid cell varies with the program duration.  Since

    a 30-minute program is allotted only a small space for the

    program title and description, titles and/or descriptions for

half- and even full-hour programs often must be truncated to fit in the allotted space. Some systems simply cut off the description of a program without abbreviating it in any way, such that the user cannot determine the subject matter of the program. While some systems partially alleviate this problem by providing two lines of text in each grid cell, this is a less than ideal solution because program descriptions may still be truncated.

2. <u>Inability to Create a Program Itinerary While Viewing a TV Program</u>. Prior art EPGs lack a method for a user to create a program itinerary, electronically, concurrently while the user views a program on the TV screen. Thus, when a user views a program on a particular channel, he or she cannot electronically set up a sequence of other channels to surf.

3. <u>Inability to Simultaneously Channel Surf and View EPG</u>. Prior EPGs leave much guess work for the user as he or she navigates through a sequence of channels. When skimming through channels and trying to determine what program is being displayed on a channel, commonly known as "channel surfing," the user must guess which program is currently being aired from the video segment encountered during channel surfing. Since up to thirty percent of the programming appearing on a channel at any given time is advertising, the user is not provided with any clues as to what program is showing on a selected channel at a given time. Hence, the user often has no choice but to wait until an advertisement or commercial ends before learning what program is showing on

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the selected channel. Existing solutions allow user to go to the channel and find more information by using a special button of remote control, i.e., "info" button. Thus, a need exists for an EPG that displays current program schedule

5      information for each channel at the same time that the user surfs through the channels.

4.    Text Size. Unfortunately, existing EPGs allow for only one font size. However, human beings do not all have the same acuity of vision. As a result, two problems appear: some

10      viewers may have difficulty or even be unable to read the information in the EPG and some viewers want to see more information using smaller font.

5.    Specular Highlighting. Existing EPGs provide only a very rudimentary lighting capability. For example, existing EPGs

15      do not have an adequate means to adjust the brightness of the EPG. This detracts from the utility of the EPG.

Thus, methods and apparatus for generating a two-dimensional ("2D") television TV graphical user interface ("GUI") for

20   providing TV program guides on a TV screen are known in the art. A conventional TV GUI uses a single layer of on-screen display graphics to present TV program information and, typically, multiple menus are provided to enable users to navigate through the presented information. For example, an apparatus that

25   generates a main menu of a program guide, which includes program source information and program event information for a plurality of program sources, and further generates navigation menus for allowing a viewer to modify the program guide is disclosed in

U.S. Pat. No. 5,694,176, issued Dec. 2, 1997 to Bruette et al.
A system and a process in which a program listing is displayed as
a grid of two-dimensionally arranged adjacent irregular cells,
which vary in length corresponding to time duration of the

5    programs, with a title of a program being displayed in each of
said irregular cells, said grid having a plurality of channels
listed in a first dimension and time listed in a second dimension,
is disclosed in U.S. Pat. No. 5,809,204, issued Sept. 15, 1998 to
Young. A multi-layered TV GUI that uses a memory for storing

10   graphics data that is capable of storing two graphics planes that
represent upper and lower layers of graphics displayable on a TV
screen, and that uses a graphics accelerator to combine the
graphics planes to produce various graphical effects on the screen
is disclosed in U.S. Pat. No. 6,016,144, issued Jan. 18, 2000 to

15   Blonstein et al. One advantage of a multi-layered TV GUI that
produces multiple layers of graphics on a TV screen is that it
eliminates the need for a multi-menu hierarchical system. (A
hierarchical menu system often causes confusion when the user
loses track of the menu that he or she came from and how to get

20   back.) A variety of other TV GUI are disclosed in the following
additional issued patents: U.S. Pat. No. 4,706,121, issued Nov.
10, 1987 to Young (hereinafter "Young '121"); U.S. Pat. No.
5,781,246, issued Jul. 14, 1998 to Alten et al.; U.S. Pat. No.
5,986,650, issued Nov. 16, 1999 to Ellis et al.

25       Thus, the art of displaying TV EPGs is known. It would be
desirable, however, for a viewer to be able to modify the user
interface according to individual preferences as to data format

for display. Young '121" discloses a system that allows a user to control a television set by selecting broadcast programs for viewing from schedule information with user-supplied selection criteria. However, there are many otherwise helpful features that

5 cannot be achieved in a useful manner within the scope of existing EPG systems. For example, it would be desirable for viewers with eye-related problems to be able to modify the user interface to display a larger font resolution.

In the case of HDTV, it would be desirable for a viewer to be

10 able to modify the user interface to use different font styles and/or font sizes that allow the user to increase the amount of scheduling data displayed on the television.

It would be desirable for a viewer to be able to view titles in EPG icons (images) instead of text. Additionally, it would be

15 desirable for a user to be able to vary the resolution of said images.

It would be desirable for the system to allow the user to completely change topology of data representation based on a user request.

20 What is clearly needed is a method and system to allow individual users to have different preferences for data arrangement on the TV screen.

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## SUMMARY OF THE INVENTION

Accordingly, this invention provides a television schedule system and process that allows an electronic programming guide designer to add a capability to change program listing appearance adaptively, based on a signal from a user or broadcaster.

The system and process of the present invention allows a user with eye-related problems to be able to modify the user interface to increase the font size, change font type or background.

The present invention allows a user of the EPG to modify the user interface to use different font styles and/or font sizes that allow a user to increase the amount of scheduling data displayed on the television.

The invention allows a user to view titles in EPG icons (images) instead of or together with text. In addition, the present invention allows a user to vary the resolution of said images by applying a combination of graphics, video and text in any form or manner to the texture maps used on the 3D objects for display.

The invention in one aspect provides a system and process that allows a user to completely change topology of data representation based on a user request, by giving the user the tools that allow him to re-arrange objects, or allow him to choose from a number of pre-arranged options.

## BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is illustrated by way of example, and not limitation, in the figures.

5        **Figure 1** is a block diagram showing the components of the present invention.

## DETAILED DESCRIPTION OF THE INVENTION

This invention relates to an EPG presentation engine. More particularly, the invention relates to a system and process that allows an electronic programming guide designer to add a capability to change program listing appearance adaptively, based on a signal from a user or broadcaster.

### Description of the Hardware

In one embodiment of the present invention, the hardware used to practice the invention includes the following:

1. A CPU such as a Celeron or Pentium, e.g., manufactured by Intel Corporation, or any other similar or equivalent CPU.

2. A non-volatile memory, e.g., a ROM, EPROM, EEPROM, EAROM, hard disk, CD ROM, or other memory device.

3. A second main memory device, typically a RAM or magnetic disk, but in some cases other suitable technologies may be used.

4. A graphics accelerator circuit.

Figure 1 is a block diagram showing the system components of the present invention. Physically, these system components can be located in a user's set-top box or other signal reception or processing device. Alternatively, the components can be included as part of a television receiver, VCR, multimedia player, PC or PC-like system.

EPG Display Generator 1 generates a displayable television schedule. In one embodiment, a schedule can be displayed as multi-dimensionally arranged irregular cells, which vary in length. In other embodiment, a schedule can be displayed as a

5    three-dimensionally arranged set of 3D surfaces textured by pre-processed scheduling data.

Based on an external event, which can be time-related (e.g., reaching of next hour block) or a user-related signal (e.g., remote-controller signal, sound, and/or gesture), Signal Filter 2

10   generates a control command to EPG Morphing Engine 3.

Various types of EPG Morphing Engine 3 are possible which change EPG topology (representation) based on a control command generated by Signal Filter 2.

One implementation of EPG Morphing Engine 3 includes a list

15   (database) of different presentation solutions. Based on a control command, one specific solution would be chosen and used for data representation.

Another implementation of EPG Morphing Engine 3 includes a set of parametrical functions. A control command creates a

20   request for a specific function and its parameters.

Another implementation of EPG Morphing Engine 3 includes a mix of presentation solutions and functions. A control command creates a request for a specific implementation or allows selection of a specific function and adapting its parameters.

25   The system and process of the present invention allows a user with eye-related problems to be able to modify the user interface

to increase the font size. This sizing of fonts is not possible using EPG of prior art with character generators. Also, using sizeable fonts, an issue still exists with no space available. Using 3D allows an object to be moved closer to the virtual viewer

5    position, such allowing the font to become bigger without destroying the layout, but rather temporarily cover up some sections.

The present invention allows a user of the 3D EPG to modify the user interface to use different font styles and/or font sizes

10   that allow a user to increase the amount of scheduling data displayed on the television.

The invention in one aspect provides a system and process that allows a user to completely change topology of data representation based on a user request, by giving the user the

15   tools that allow him to re-arrange objects, or allow him to choose from a number of pre-arranged options.

A signal filter is a trigger for an event based on reaching of a trigger condition previously programmed into it based either on user and or provider programmed and or selected criteria.

20   In the foregoing specification, the invention has been described with reference to specific embodiments thereof. It will, however, be evident that various modifications and changes can be made thereto without departing from the broader spirit and scope of the invention as set forth in the appended claims. The

25   specification and drawings are, accordingly, to be regarded in an illustrative rather than a restrictive sense. Therefore, the

scope of the invention should be limited only by the appended

claims.

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## CLAIMS

What is claimed is:

1        1.    A system for providing an adaptive Electronic Program

2    Guide (EPG) presentation for use with a receiver for displaying

3    programs from a plurality of program sources on a plurality of

4    user-selectable channels comprising:

5        an EPG presentation generator for generating a displayable

6    EPG presentation;

7        a signal filter; and

8        an EPG morphing engine for modifying the EPG presentation

9    based on a control command generated by the signal filter.


1        2.    The system according to claim 1, wherein the EPG

2    presentation can be displayed as a three-dimensionally arranged

3    set of three-dimensional surfaces textured by specially pre-

4    processed scheduling data.


1        3.    The system according to claim 1, wherein the morphing

2    engine comprises a database of different EPG presentation

3    solutions, and based on a control command generated by the signal

4    filter, one of said solutions is selected from said database for

5    display.


1        4.    The system according to claim 1, wherein the morphing

2    engine comprises a set of parametrical functions, and a control

3    command generated by the signal filter creates a request for a

4    specific function and its parameters.

1     5.    The system according to claim 3, wherein the morphing

2    engine comprises a mix of presentation solutions and functions,

3    and a control command generated by the signal filter creates a

4    request for one of said solutions.

1     6.    The system according to claim 3, wherein the morphing

2    engine comprises a mix of presentation solutions and functions,

3    and a control command generated by the signal filter creates a

4    request for a specific function and its parameters.

1     7.    The system according to claim 1, wherein the signal

2    filter is based on an input provided by a user.

1     8.    The system according to claim 1, wherein the signal

2    filter is based on a signal from a broadcaster.

1     9.    The system according to claim 7, wherein the input

2    provided by the user is a request for the use of a different font

3    type and/or the use of a different font size.

1    10.   A method comprising:

2       generating a displayable EPG presentation; and

3       modifying the EPG presentation based on a control command

4    generated by a signal filter.

# <u>ABSTRACT</u>

This invention provides a television schedule system and process that allows an electronic programming guide designer to add a capability to change program listing appearance adaptively, based on a signal from a user or broadcaster.

Signal to change
EPG GUI
(Controller, voice,
sound, etc.)

Control
Command

2. Signal Filter

3. EPG Morphing
Engine

EPG Scheduling and
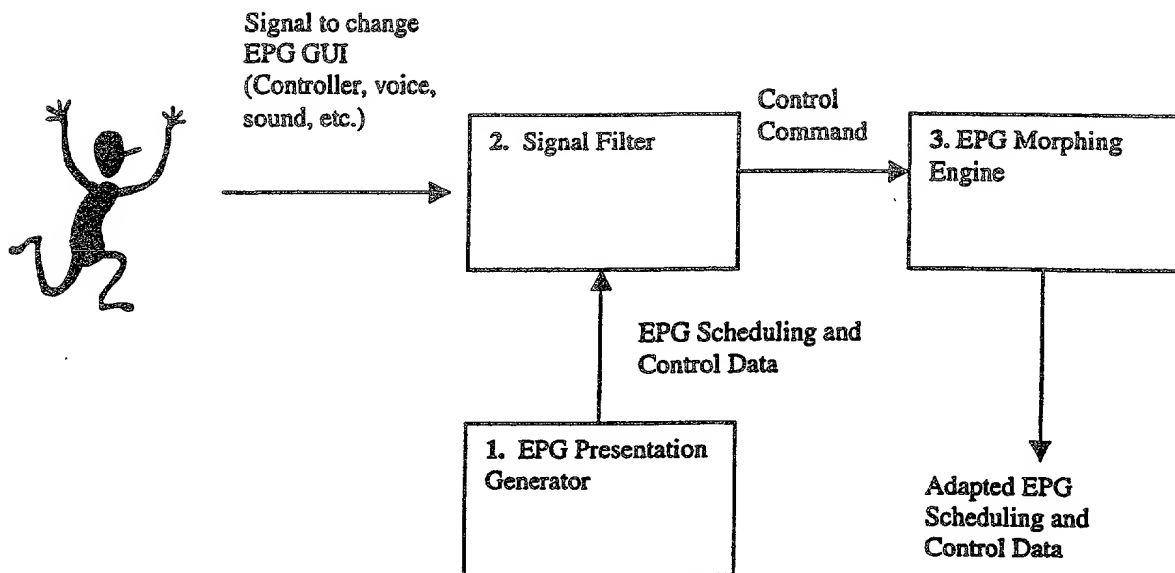Control Data

1. EPG Presentation
Generator

Adapted EPG
Scheduling and
Control Data

Fig.1   Adaptive Electronic Programming Guide diagram